

MASS. HS 63.2:IN 3

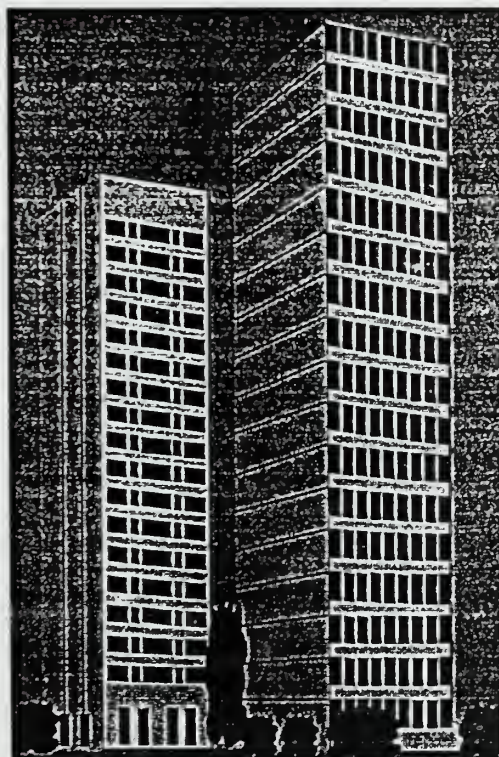
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## INDOOR AIR QUALITY ASSESSMENT

Saltonstall Building  
100 Cambridge Street  
Boston, Massachusetts

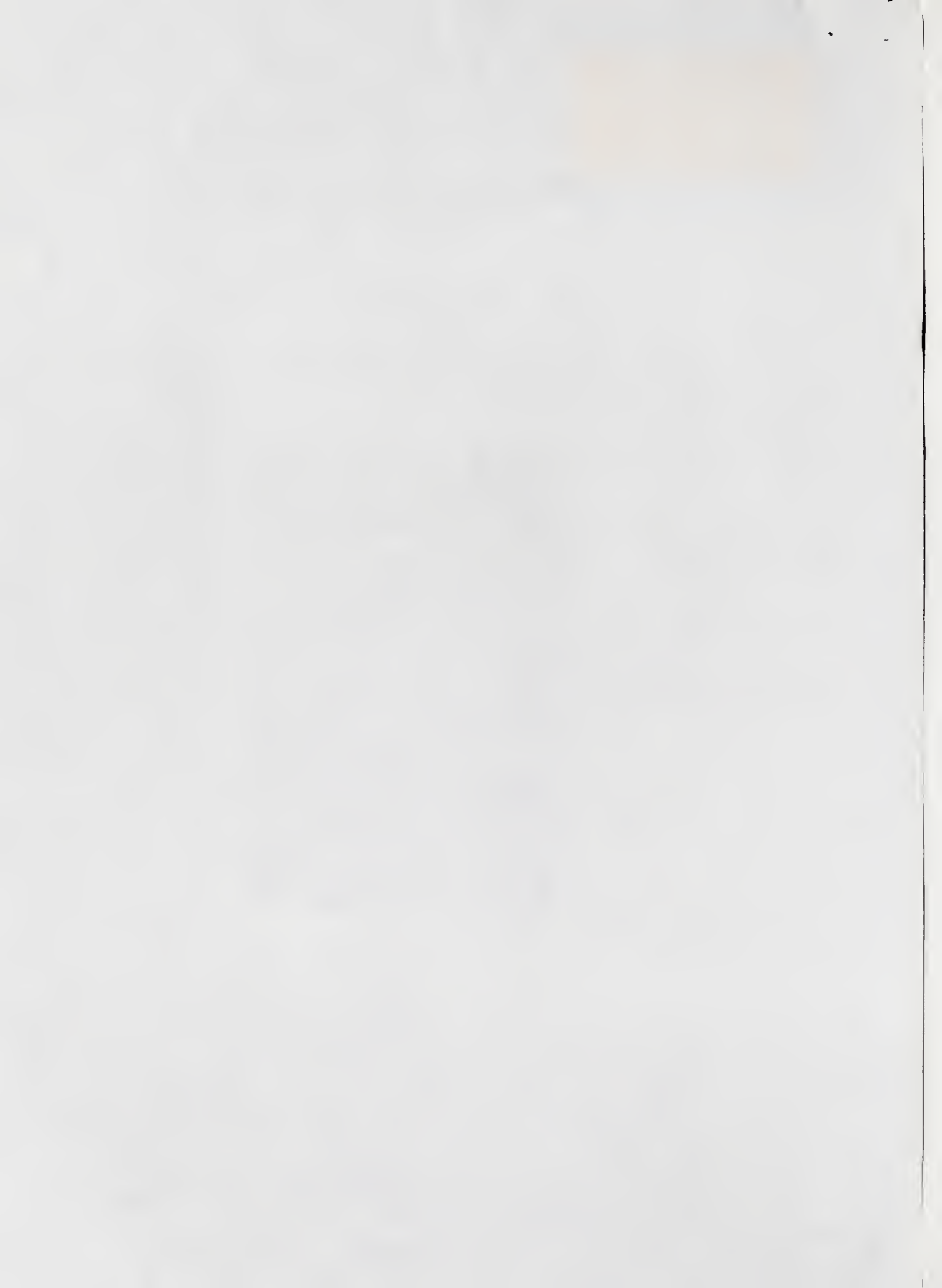


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Prepared by:  
Massachusetts Department of Public Health  
Bureau of Environmental Health Assessment  
March, 1998



## **Background/Introduction**

At the request of Saltonstall Air Quality Project Team, indoor air quality tests for carbon dioxide, temperature and relative humidity were conducted at the Saltonstall Building, 100 Cambridge Street, Boston, Massachusetts. This assessment was conducted by the Massachusetts Department of Public Health (DPH), Bureau of Environmental Health Assessment (BEHA).

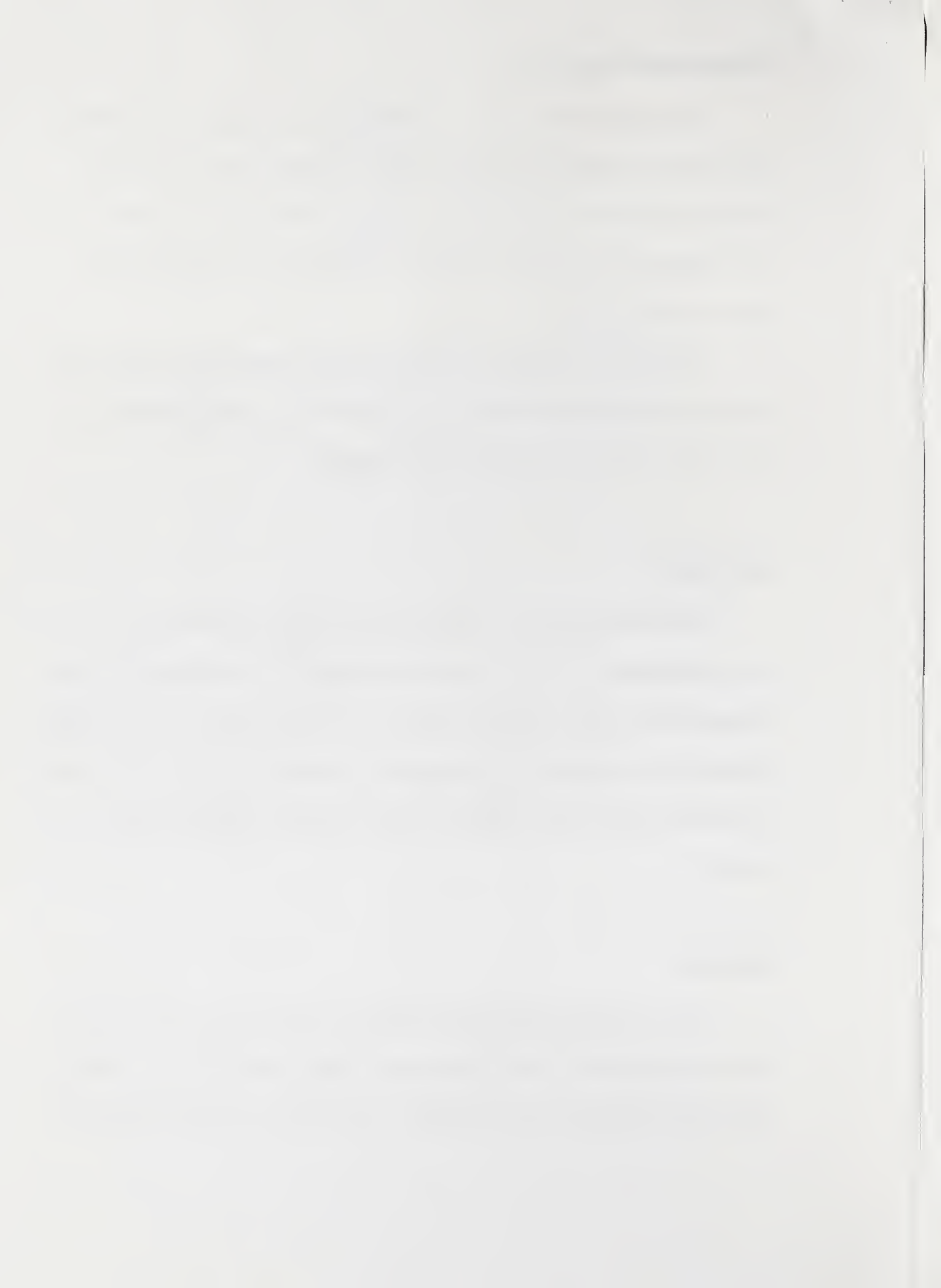
On March 3-5, 1998, Michael Feeney, Chief of Emergency Response/Indoor Air Quality, visited this building. On March 3, 1998, Mr. Feeney was accompanied by Cory Holmes Environmental Analyst in the ER/IAQ program.

## **Description**

The Saltonstall Building is a 22-story structure that houses numerous state government agencies. Each floor consists of a mixture of private offices and office space created by floor dividers. The building does not have openable windows, and is therefore dependent on the mechanical ventilation system for climate control and comfort. Supply and exhaust ventilation is provided through slots around light fixtures throughout the building.

## **Methods**

Air tests for carbon dioxide were taken with the Telaire Carbon Dioxide Monitor and tests for temperature and relative humidity were taken with Vaisala HM 34 Humidity and Temperature Meter. Measurements were taken in office spaces that were occupied,



with several additional readings taken in unoccupied offices to obtain comparison data. Since many individual offices and cubicles are not numbered, locations of some samples are denoted by the program area, function or name of the occupant where the sample was taken. Since the 4th, 5th, mezzanine floors and parts of the 11th floor were unoccupied, tests for carbon dioxide, temperature and relative humidity were not taken.

## Results

The Saltonstall Building has a reported employee population of approximately 2,200. The tests were taken under normal operating conditions. Test appear in the attached Tables.

## Discussion

### Ventilation

Carbon dioxide levels throughout the Saltonstall Building were uniformly below the comfort guideline set by the BEHA for public buildings [i.e., greater than 800 parts per million parts of air (ppm) indicates a ventilation problem], see Tables. These carbon dioxide levels are indicative of adequate air exchange by the mechanical ventilation system.

The Massachusetts Building Code requires a minimum ventilation rate of 20 cubic feet per minute (cfm) per occupant of fresh outside air or have operable windows in each room. The ventilation must be on at all times that the room is occupied. Providing adequate fresh air ventilation with open windows and maintaining the temperature in the



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comfort range during the cold weather season is impractical. Mechanical ventilation is usually required to provide adequate fresh air ventilation.

Carbon dioxide is not a problem in and of itself. It is used as an indicator of the adequacy of the fresh air ventilation. As carbon dioxide levels rise, it indicates that the ventilating system is malfunctioning or the design occupancy of the room is being exceeded. When this happens a buildup of common indoor air pollutants can occur, leading to discomfort or health complaints. The Occupational Safety and Health Administration (OSHA) standard for carbon dioxide is 5,000 parts per million parts of air (ppm). Workers may be exposed to this level for 40 hours/week.

The Department of Public Health uses a guideline of 800 ppm for publicly occupied buildings. A guideline of 600 ppm or less is preferred in schools due to the fact that the majority of occupants are young and considered to be a more sensitive population in the evaluation of environmental health status. Inadequate ventilation and/or elevated temperatures are major causes of complaints such as respiratory, eye, nose and throat irritation, lethargy and headaches.

### **Temperature and Relative Humidity**

BEHA staff received numerous complaints concerning temperature control by the mechanical ventilation system. Temperature readings at the Saltonstall Building were within the BEHA recommended range for comfort, except for the following areas; parts of the 3rd floor, 22nd floor and 1st floor lobby which were slightly below the BEHA temperature comfort range and areas in room 304N which were slightly above the BEHA temperature comfort range. The BEHA recommends that indoor air temperatures be





maintained in a range between 70° to 78° F in order to provide for the comfort of building occupants. In many cases concerning indoor air quality, fluctuations of temperature in occupied spaces are typically experienced, even in a building with an adequate fresh air supply.

The relative humidity was found to be below the BEHA relative humidity comfort range of 40-60% during all three days of air sampling. The sensation of dryness and irritation is common in a low relative humidity environment. Low relative humidity can enhance irritant effects of dust, dirt and other common irritants. Humidity is more difficult to control during the winter heating season. Dry air in large buildings is a very common problem during the winter in the northeast part of the United States.

## **Conclusions/Recommendations**

In view of the findings at the time of this visit, the following recommendations are made:

1. Based on these recommendations, the ventilation system provides an adequate supply of fresh air during work hours.
2. Implementation of an on-going, scrupulous housekeeping regimen to reduce dirt, dust and other common irritants should be implemented.
3. Complaints of temperature extremes should be directed to the Saltonstall Air Quality Project Team.



**Table 1**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>22nd Floor</u>				
2200 Dept. of Corrections Lobby	527	68	31	1
2228	420	68	31	1
2229	438	68	31	1
Law Library	442	69	30	0
2227	434	69	31	1
Corner Cube NE	448	69	31	1
2218	442	69	30	1
2217	447	69	30	1
2216	432	70	30	2
Commissioner of Corrections	445	70	30	1
2242	453	71	28	1
2247	451	71	28	2
2251	454	71	27	2
Investigation Unit Area	437	71	29	5
2204 NW Corner, Reception Area	442	71	29	1
2204 Meeting Area	451	71	29	5
M. Derendo's Office	460	71	29	2
M. Trainor Office	440	71	29	1
2223	424	77	20	1
2222	417	73	23	1
2221	437	73	26	1
2225	435	74	23	1
2224	446	73	24	1



**Table 1 (Continued)**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>22nd Floor</u>				
Gaeta	440	74	22	1
White	422	74	21	1
Fax Area	403	74	23	0
2238	396	74	21	1
Photocopier Room	411	74	23	1
Susan	414	74	22	0
2245	380	73	23	0
Drafting	376	72	22	0
Reception Area Investigation Unit	360	72	23	1
ABCC Cube NE	384	73	23	1
Sullivan	413	74	24	2
Records "Center"	409	74	22	0



**Table 2**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>21st Floor</u>				
DFA 2103 Reception	430	72	28	1
Farm Products Office	458	71	29	2
GIS Work Station	458	72	29	1
CFO Office	457	72	29	2
Division of Dairy Service	431	72	29	2
2100 Reception	458	72	28	2
2100 Cubicle N	432	72	28	6
2100 Cubicle S	458	72	28	4
2109 OTA Reception	446	72	27	5
2109 OTA Cubicles	459	72	28	3
2109 Back Room	457	72	27	1
2109 NE Cubicles	460	72	28	3
2104 Reception	456	72	27	1
2104 NW Office	458	72	27	1
Commissioner's Staff	394	75	22	2
Printer Area	402	73	22	3
Bureau of Fam. Health	403	75	21	1
Richov	407	73	22	1
NE Corner Office	404	75	24	0
SW Corner Cubicle	422	76	22	0
Dept of Correction Copy Room	416	76	22	0
NE Corner - Table Area	413	76	21	0
Director's Office	452	76	22	2
2112-Assoc. Comm. Office	440	75	21	0
Milito	404	74	23	2





**Table 3**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>20st Floor</u>				
NE Corner Cube	538	74	24	1
Lee	440	74	22	2
SE Corner Office	439	73	22	0
Bacaler	416	74	23	0
Foster	403	75	21	2
Rodman	415	75	21	0
Trudy Coxie	406	75	22	0
P. Brady	417	76	22	0
Conference Room	504	77	21	1
2004 Division of Banks Reception	445	72	27	1
2004 Consumer Complaints	462	73	27	5
2004 Commissioner's Office	459	72	27	1
2004 Commissioner's Reception	461	73	27	1
2004 FIS	460	73	27	4
2003 Div. of Bank Consumer	451	73	26	5
2000 EOEa Reception	437	73	26	5
2000 EOEa Area near Reception	405	73	26	5
2000 Chief of Staff Office	450	74	25	1
2000 EOEa Administrative Assistant	465	74	26	2
George Gromble Office	464	74	26	2
Gina McCarthy Office	451	74	26	1
EOEA CZM Cubicle	458	75	27	2
EEA CZM - Coord. Area	458	75	26	1



**Table 4**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>19th Floor</u>				
Hartzel	383	74	21	1
Dept of Env. Mgt.	410	75	21	1
1005 - DEM Reception	467	74	25	1
1905 Phippen/Saloma	465	74	25	3
1905 Dir. Legal Secretary	453	74	25	1
1905 DEM Human Resources	451	74	25	3
DEM Forest and Parks Office	468	74	26	1
Chief Office - Bureau of Fire Control	467	74	25	2
Forest and Parks Cubicles	455	75	25	4
Samuels	382	74	22	1
Demoreno	428	75	23	3
Bandenburg	403	76	20	1
Graphics	407	76	20	4
Office	409	76	22	2
Coates Directors Office	456	77	22	1
Reception Area	400	75	20	1



**Table 5**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>18th Floor</u>				
Dept of Housing Reception Area	387	73	21	1
Arpino	403	74	22	1
Michaud	399	74	24	1
Fitzgerald	414	76	21	4
Barlow	403	76	20	4
Connor	396	73	22	1
Nardone	391	74	21	1
CDF	408	74	21	4
Shumeyko	425	75	23	1
Moss	407	75	21	1
1801 Lobe Office	462	73	25	1
1802 CDBG Hall	451	74	25	2
D of Comm. Service Support Staff	469	74	25	1
Jepson Office	481	75	25	2
McCleve Office	470	74	25	2





**Table 6**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>17th Floor</u>				
1702 Dept. of Community	468	75	25	1
Housing Div. and Administration	442	74	25	1
Construction Unit	450	74	25	1
Bureau of Asset Management	450	74	25	1
Bureau of Housing Mgt. Cubicles	464	74	25	2
Bureau of HMA NW	466	74	26	2
Bureau of Rental Assistance	467	74	25	3
Division of Housing Finance	465	74	25	2
McLaughlin	403	74	22	1
Votour	410	74	22	1
Barney	392	74	22	2
Roche	388	75	21	1
Konotopka	431	74	22	2
DIC	416	75	22	3
Pomeroy	399	77	21	1
Simard	397	77	21	1
Ofria	415	75	21	1
Lynch	409	75	20	2
DCPO Leasing	362	74	23	2
DCPO Leasing #2	394	73	22	1
NE Corner Cube	380	72	22	1
Real Estate Mgt.	372	75	21	2
Trevisan	377	74	21	1
Moriarty	373	75	21	1



**Table 7**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>16th Floor</u>				
DCPO Reception	426	74	25	2
DCPO Martha Goldsmith's Office	462	74	25	1
DCPO Assets Cubicles	451	74	25	1
DCPO Office of Leasing	464	74	25	1
DCPO Graphics	450	74	24	1
DCPO Meeting Room	464	74	25	3
1604 Exec. Sec. Office	426	74	26	1
1604 Reception	448	74	25	1
1604 Preble Office	461	74	25	1
1604 Chairman's Office	450	74	25	1
1604 Commissioner's Office	466	74	26	1
1602 Reception	469	74	26	2
1602 Workers Comp. Div. Rita	440	74	24	1
1602 Analysis Unit	468	74	25	5
1602 UR Unit	458	75	24	8
1601 Human Resources	447	75	21	3
Legal Department Div. of Energy Resources	435	77	19	1



**Table 8**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>15th Floor</u>				
1519 Monahan - 4:00 p.m. retest 3/4/98	479	74	16	1
1519 McGinn - 4:00 p.m. retest 3/4/98	469	74	15	1
1519 Sullivan - 4:00 p.m. retest 3/4/98	489	74	16	1
1519 Tonaszuk - 4:00 p.m. retest 3/4/98	495	75	15	1
1519 Meeting Room - 4:00 p.m. 3/4/98	504	76	15	2
1516 Reception - 4:00 p.m. retest 3/4/98	565	77	17	2
1500 Consultant Office	465	76	24	1
1500 DER Library	472	75	24	2
1500 DER Fiscal Paul's Office	459	76	24	1
1500 DER Stanton	474	76	25	2
1500 DER Photocopier	474	76	25	2
1501 Energ. Efficiency Team Lead	456	76	23	1
1501 Policy Cubicles SE	474	76	25	2
1505 Reception	472	76	23	1
1505 Office Cubicles	472	76	23	1
1506 NE Civic Cubicle	472	75	24	1
1506 Deputy Commissioner's Office	455	75	24	1
1511 Electrician's Board	469	75	25	3
1512 Computer Service Bureau	455	76	26	4
1512 MIS Dir. Office	469	75	25	1
1513 Division Registry	469	75	25	3
Certified Health Officers	469	75	25	3
1520 Administration	455	75	24	1
1520 Dir. Office	472	76	24	1



**Table 8 (Continued)**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>15th Floor Continued</u>				
Office of Prosecution 1519 Grossbaum	472	76	25	1
Office of Prosecution 1519 Tonaszuk	472	76	25	1
1500 DER Reception	472	75	24	1
1500 Sec DER Administration Office	461	75	25	1
Venezia	483	78	19	1
Copier Room	442	77	19	1
Gen. Councils Office	517	76	21	2
Sullivan	434	76	21	2
Miller	447	74	22	1
Cosmas	453	75	21	1
Electricians Office NE Corner	443	75	21	4
SE Corner Office	450	75	21	1
1514	510	76	22	4
Conference Room 1519	428	76	22	1
Bonnit	453	76	21	2
Legal Dept. Div. of Energy Resources	435	77	19	1
Sullivan	465	76	21	1
Griffen	574	77	21	1





**Table 9**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>14th Floor</u>				
SE Corner Cubicle	439	78	19	1
SW Corner	430	76	20	1
Conservation Services SE Corner	453	77	19	3
Lerner, Director	512	78	20	1
Santana	423	76	20	1
Engineering File Area	433	75	20	4
Haynes	402	74	21	1
Office of Travel & Tourism Fulfillment Area	394	76	20	2
Office	377	74	21	1
NE Corner Office	419	74	23	1
Cafeteria	448	74	25	16
1406 Div. of Engineers Cubicles	461	74	26	1
1404 Division of Registration	465	74	26	15
1404 DEM Reception	450	74	25	5
1404 Garfield	465	74	25	1
1404 Lukens	464	74	25	2
14 04 Boogdamian	466	74	26	1
1404 Lash	464	74	25	2
1404 GIS Station	465	74	25	2
1404 Pittore	464	74	25	1
1404 Land Aquisition	465	74	26	4



**Table 10**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>13th Floor</u>				
1305 Office of Travel and Tourism	464	75	24	2
1305 Mott	471	75	25	2
1305 NE Cubicles	469	75	24	2
1305 E Cubicles	473	76	24	3
1304 Reception	470	75	24	1
1304 DTE Enid Qumon-Siting Div.	471	75	23	1
1303 Staff Area	444	75	23	1
1303 Ahern	472	75	24	1
1303 N Cubicles	472	76	25	5
1302 Molony	469	75	24	2
1303 Division of Reg. Reception	470	75	24	2
1313 Cubicles	472	76	25	2
1313 Office	472	76	24	
1304 Mathews	364	76	21	1
1303 Reception Area	394	77	21	1
NE Corner Cubicle	377	77	20	1
Conference Room	390	75	23	3
NW Corner Office	396	75	22	1
SW Corner Cubicle	376	76	20	1
Board of Registration of Public Accountancy 1315	431	75	21	2



**Table 11**  
**Indoor Air Results - Saltonstall Building - Boston - March 3, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>12th Floor</u>				
Administrative Services NE Corner	392	76	20	1
Chevlin	383	75	20	1
Hanson	424	74	21	2
Consumer Div - 1202	459	74	20	5
SW Corner	508	76	21	1
SE Corner	502	77	21	4
1203	387	77	18	2
1203 Center	378	77	20	2
Johnston	420	75	21	4
1210 Reception	437	75	23	4
1210 Commissioner's Office	472	76	24	1
1210 General Counsil Ernst Office	457	75	24	1
1210 Assistant General	471	75	24	1
1210 Cubicle	471	75	25	5
1210 Meeting Room	472	76	25	4
1202 Assistant Director	472	76	26	
1206 Reception	475	76	26	
1206 Engineers EPD Office	475	76	26	2
1207 N Office Gas Division	475	76	25	7
1206 NW EPD	461	76	25	5





**Table 12**  
**Indoor Air Results - Saltonstall Building - Boston - March 4, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>11th Floor</u>				
MA Office for Victim Assistance Reception Area	427	73	15	1
1104 Director's Office	458	68	25	1
Paula & Tori	466	79	14	2
1104 Gill/Devlin	617	71	18	2
1105 Board of Arbitrators	393	75	13	2
1105 Chairman's Office	416	76	15	1
1105 Kelley	424	76	16	1
1106 Lead & Asbestos	380	75	13	3
1107 DOS Reception Division of Occupational Safety	361	74	13	1
1107 DLWD Apprentice Program	384	75	13	7
1107 DLWD Prerioso Office	396	74	14	1
1107 DLWD Admin. Office	407	76	15	1
1107 DOS Office Space	409	76	15	2
1107-A	387	74	15	2
1107A CHIT Oversight Coord.	451	75	15	1
1103B MISER	411	74	15	2



**Table 13**  
**Indoor Air Results - Saltonstall Building - Boston - March 4, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<b>10th Floor</b>				
1010 Appellate Tax Board	417	76	13	1
1010 Chariman's Office	430	74	14	1
1010 Howland	407	74	14	1
1010 Computers	383	73	14	1
1010 Warren	359	73	16	1
1010 Military Records Office	366	72	16	1
1000 Reception	369	72	16	1
1002 Reception	376	73	16	1
1002 Santiago	400	73	16	1
1002 Davis	403	73	15	3
1002 Reimanent Records Desk	407	73	15	1
1002 Kravchuk	408	73	17	2
1002 Commissioner Secretary's	419	73	16	1
1002 Budget/Audit	399	74	15	3
1002 Budget Dir. Office	395	74	15	1
1002 Computer Room	414	75	14	1
1003 Hearing Room A	524	74	15	7
1005 Dispute Resolution Reception	404	74	14	1
1005 Deputy Director's Office	411	74	15	1
1005 Directors Office	424	74	14	1



**Table 14**  
**Indoor Air Results - Saltonstall Building - Boston - March 4, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>9th Floor</u>				
904 Adm. Law Appeals Recep.	407	74	14	2
904 Tolson's Office	420	73	15	1
904 Luwik Office	423	73	16	1
904 Fink's Office	437	73	16	1
904 Hearing Room	532	74	18	6
907N Coord. Office	418	75	15	1
907N Cubicles	402	75	15	1
900S SW Cubicle	414	75	13	1
900S Directors Office	433	75	14	1
900S SW Cubicle	421	75	16	2
902 Sentencing Comm. Reception	393	74	14	1
902 Dir Office	402	73	16	1
902 Research Dir	422	73	15	1
902 Cubicles	381	73	15	1
903 Low Level Rad Waste	380	73	15	1



**Table 15**  
**Indoor Air Results - Saltonstall Building - Boston - March 4, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>8th Floor</u>				
800 Reception	405	74	17	2
800 Conley	418	72	16	1
800 Hickey	403	73	16	1
800 McBride	382	73	15	1
800 Cella	435	73	16	1
800 Fallon	470	74	14	1
800 Legal Support Exec	398	73	16	1
805 DOR Deputy Sec. Desk	401	73	13	1
805 DOR Deputy Comm. Office	373	73	15	1
805 Particelli	374	73	16	1
806N Comm. Sec. Office	377	74	14	1
806N DOR Communication Div.	386	74	14	1
806 DOR Reception	373	75	13	1
808N Reception	384	74	13	1
808N DOR Litigation	495	73	16	2
808N Donovan	451	72	15	1
808N Labor Relations	431	72	16	1
808N Swort Office	427	72	17	1
808N Renberg	403	73	16	1
808N Durwin	392	73	15	1
808N Nicdas	380	74	14	1
808N C11 Intern Office	446	75	14	1
808N Library	400	74	14	2





**Table 16**  
**Indoor Air Results - Saltonstall Building - Boston - March 5, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>7th Floor</u>				
707N Facility Management	410	70	25	1
707N Revenue Accounting	437	73	26	6
707N Revenue Acct. Manager	471	74	27	1
707N Sharek	439	74	25	1
707N Accounts Payable Cubicles	420	74	21	4
700S Payroll Manager	417	72	23	1
700S Insurance Cubicles	471	73	22	3
700S Attendance Cubicles	488	74	25	2
700S Support Unit Cubicles SE	425	72	22	1
700S Cubicles	391	73	22	1
707N Revenue Accounting	400	75	21	3
707N Procurement 404	421	76	24	3
Chief Office				
707N Facility Mgt.	400	76	19	1
707N Protested Checks Cubicle	414	76	20	3
707N Final Service	427	76	21	2
704S R and D Cubicles	471	77	19	6
704S R and D Director's Office	480	78	19	2
704S R and D SW Dir. OAE	555	78	20	3
703S Reception	448	75	22	2
703S Lauper	444	74	21	1
703S - Hansen	498	74	21	1
703S Records - Riccardi	426	73	23	1
703S Herrman	422	73	28	1
703S Meeting Area	413	73	21	3



**Table 17**  
**Indoor Air Results - Saltonstall Building - Boston - March 5, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<u>6th Floor</u>				
602S Inspectional Services DOR	421	73	24	2
602S Problem Resolution Cubicles	395	72	23	1
602S Problem Resolution Director	428	72	23	2
602S Problem Resolution SW	403	74	23	2
602S Internal Audit	405	74	24	3
602S Deputy Dir. Problem	389	74	21	1
601S	381	73	23	1
600SLitigation Bureau Cubicles	386	73	27	2
600S Ogilvie	422	76	19	1
600S King	398	75	25	1
608 Reception	399	74	22	1
608 Supevisor, Non-Tech Training	442	74	22	1
608 Director - Training Office	411	74	24	1
608 Cubicles	421	73	23	3
608B Meeting Room	688	74	25	40
608D Reception	440	74	20	2
608D Director's Office	434	73	23	1
607B PSB Reception	401	73	21	1
607N Cubicles	419	73	24	3
607N Director's Office	383	72	22	1
605N Bankruptcy Reception	386	74	20	2
605N Cubicles N	391	75	20	6
605 Cubicle NE	404	76	21	4



**Table 18**  
**Indoor Air Results - Saltonstall Building - Boston - March 5, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
5th Floor - no offices				
4th Floor - no occupied offices				
3rd Floor				
304 DLS Reception	391	75	20	1
304N Production	442	76	20	1
304N Hinchey	467	75	20	1
304N Collery	502	75	20	2
304N Blau	479	77	19	1
304N Crowley	471	79	19	1
304N Hernor	450	80	19	1
304N N. Conference Room	473	80	21	5
304N McCarthy	423	79	17	1
304N NW Cubicles	427	76	21	2
304N SW Cubicles	378	76	18	2
304N Hyde	373	75	20	1
304N BLA Cubicles NW	383	75	20	3
304N BLA Cubicles NE	396	75	19	5
304N Kingsley	395	73	24	1
300S Records Management	381	74	19	1
300S Records NE Corner	386	74	21	1
300S Cubicles E	368	75	19	1
300S Director's Office	365	76	18	1
Taxpayers Assistance	396	75	18	4



**Table 19**  
**Indoor Air Results - Saltonstall Building - Boston - March 5, 1998**

Location	Carbon Dioxide * ppm	Temperature F	Relative Humidity %	Occupants in Room
<b>2nd Floor</b>				
2nd Floor DOR Corner Cubicle	381	72	21	2
2nd Floor Cashiers	468	75	20	3
Taxpayers Assistance	389	74	19	2
<b>1st Floor</b>				
1st Floor Lobby	423	72	21	40+
1st Floor Snack Bar	428	70	26	4
1st Floor Lobby State Police	422	69	22	10
1st Floor Lottery Front Desk	443	75	23	2
1st Floor Lottery Back Room	418	76	19	1
1st Floor Motor Pool Office	620	71	25	2
Outdoors	324	44	47	0

